

Early Action Program Design Summary



1. Rhodelia Avenue Unsewered Community



2. Management of the Sewage Sludge in the San Diego Creek Watershed Area



3. Management of Dairy Wastes in the Ontario-Chino-Corona Area

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SUMMARY OF EARLY ACTION PROGRAM DESIGN

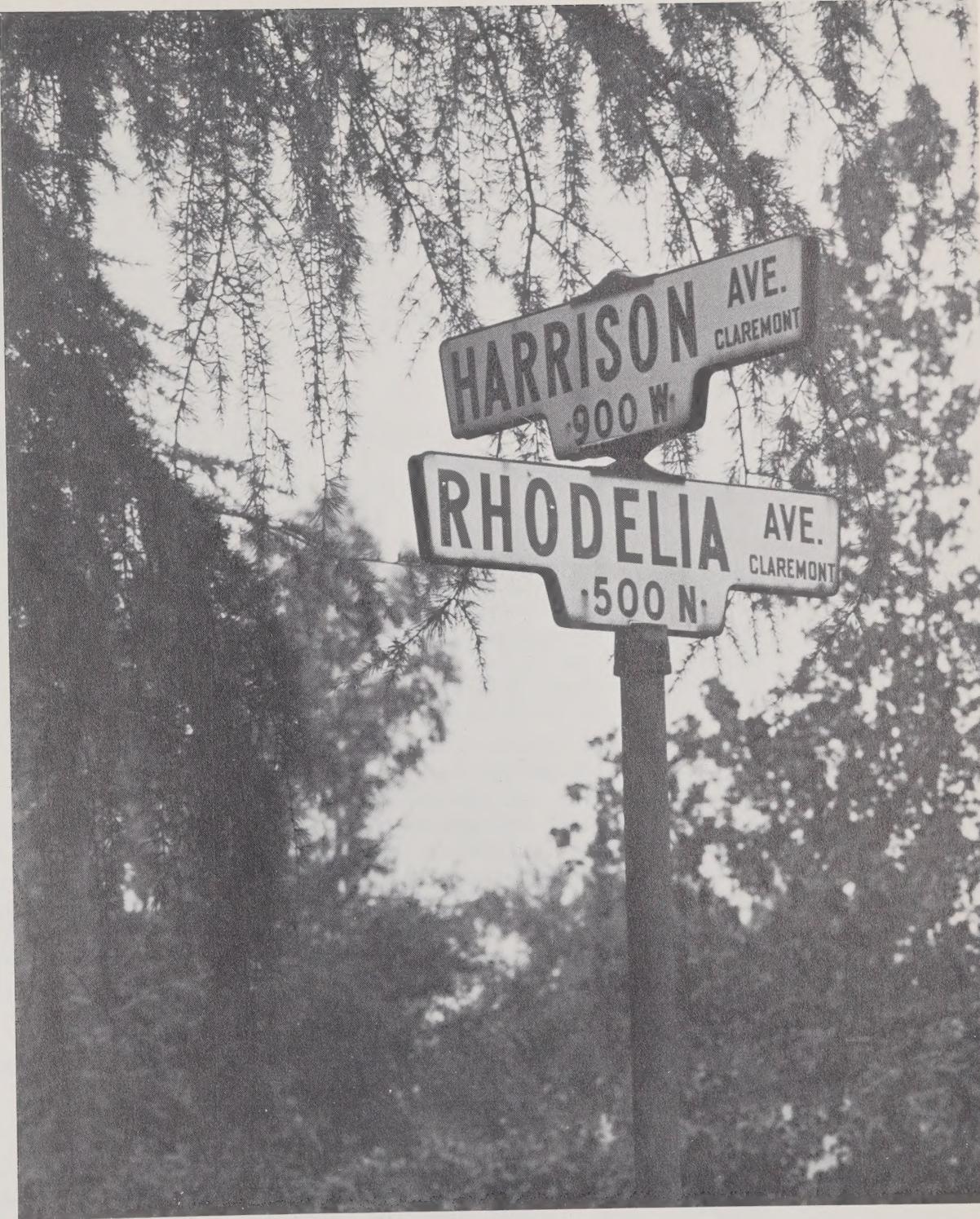
Without large amounts of imported water, Southern California could sustain only a small percentage of its current population and industry. This fact, and the recent drought, point to the need to keep local water supplies wholesome for drinking, recreation, fishing and maintenance of aquatic life.

Water bodies become unwholesome and unusable in many ways. Bacteria may enter streams from areas supporting dairy cattle, wild animals or pets, and from failed septic tanks; these make the water hazardous to human health. Excess fertilizer and other nutrients washed from farmlands by rain may end up in lakes and ponds, where they harm aquatic life. Heavy concentrations of minerals and wasteloads of silt and eroded material make the water undrinkable, limit its use for agriculture and impair the quality of water used to replenish groundwater supplies. In the ocean, marine life has suffered from wastes dumped by ships, by pollution from oil wells and fields, by oil spillage, by runoff from urban and agricultural areas and by sewage discharges.

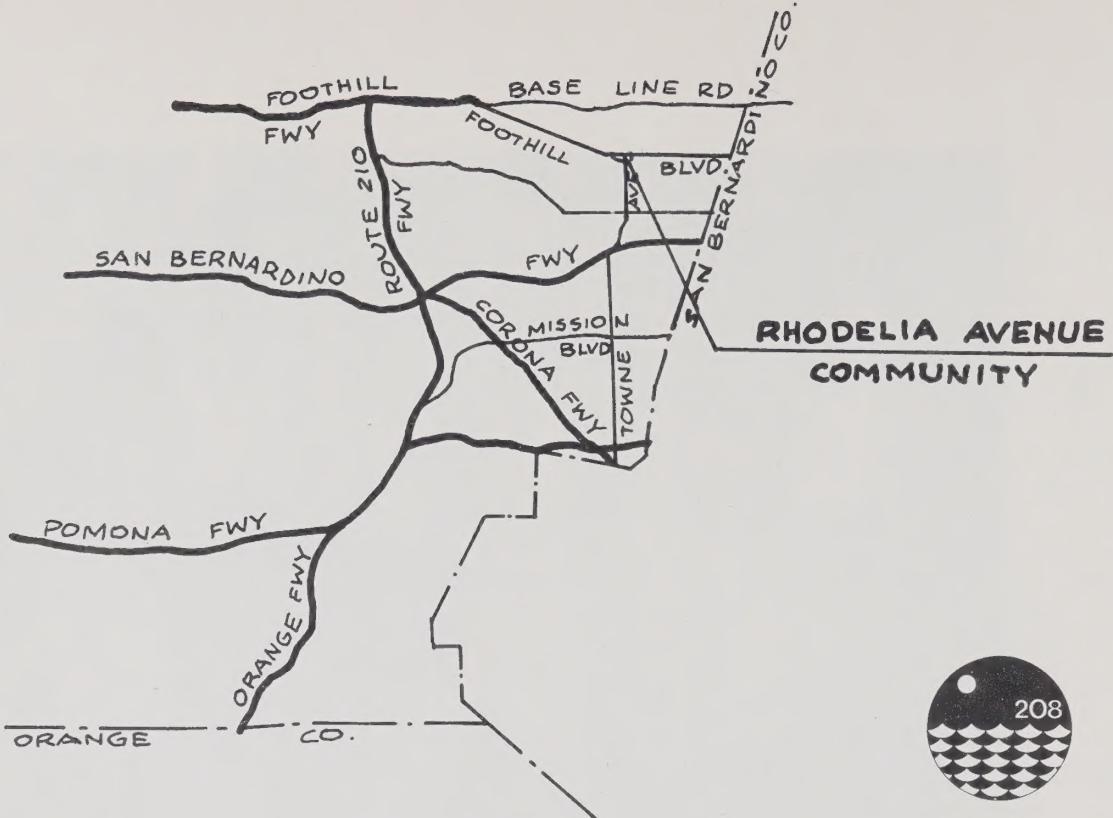
Some sources of pollution can be easily identified: discharges from sewage treatment plants, industries and power plants. These are called "point sources", and most have been identified and dealt with. Water quality improvement programs now must look also at "nonpoint" sources of pollution -- streets, farms, landfills, eroding areas and other sources not easy to pinpoint.

INTRODUCTION

The Southern California Association of Governments (SCAG) is currently preparing a 208 Areawide Waste Treatment Management Plan for the South Coast area. 208 is the number of a section of the Federal Water Pollution Control Act Amendments of 1972. The section legislates that local governments must plan how water pollution will be controlled in their area. SCAG has contracted with the following participating agencies to help develop the 208 Plan: the City of Los Angeles; the Counties of Los Angeles, Orange, Riverside and San Bernardino; Ventura Regional County Sanitation District; Newport-Irvine Waste Management Planning Agency (NIWA); and the Santa Ana Watershed Project Authority (SAWPA). In addition, the Los Angeles, Santa Ana and San Diego Regional Water Quality Control Boards are preparing portions of the plan under formal agreement with SCAG. Three Committees (Citizens Advisory, Program, Environmental Quality and Resource Conservation) advise and direct the 208 Program staff, with ultimate decision-making authority resting with SCAG's Executive Committee.



1. Rhodelia Avenue Unsewered Community



RHODELIA AVENUE UNSEWERED COMMUNITY

Description of the Problem

In Los Angeles County fifty-one identified communities utilize private on-site wastewater disposal facilities. In many areas, these facilities are performing adequately; however, the number of failing systems is increasing. Some of these unsewered communities are either known to be or are potential contributors to local surface or ground water quality degradation. Additionally, those with failing systems present a possible health hazard through the occasional overflow of septic tanks and subsequent body contact. Some areas may also be affected by earth slippage initiated by the continuing disposal of sewage through subsurface systems. Based upon a review of all identified unsewered communities, the Rhodelia Avenue community was selected for the Early Action Program.

Occasional septic tank overflows occurred in the Rhodelia Avenue area, presenting possible health hazards through body contact. This chronic overflow condition is attributed to a combination of inadequate maintenance, inadequate leach field systems, poor soils and other factors. Additionally, the Rhodelia Avenue community is situated over the Spadra Groundwater Basin where high nitrate concentrations occur. The land was formerly used for citrus farming. Excessive fertilization is the alleged origin of the bulk of nitrates; however, use of subsurface sewage disposal systems contributes to the accumulation of nitrates in the groundwater basin.

In 1975, the County Department of Health Services conducted an investigation of the Rhodelia Avenue project area for the purpose of determining the extent of failing private disposal systems. In June of 1975, the County Health Officer recommended that sewers be installed in the area. In 1975, a majority of the residents in the community signed a petition requesting the formation of an improvement district to install sewers. An application was made in July, 1975, to the Local Agency Formation Commission (LAFCO) for approval to annex the Rhodelia area to the County Sanitation District. In September, LAFCO conditionally approved the annexation provided that the area first annex to the City of Claremont.

The California Regional Water Quality Control Board, Los Angeles Region, in March, 1977, stated that it strongly supported the position of the County Engineer in seeking the sewerage of the Rhodelia Avenue area. The Regional Board pointed out that in addition to the problem of failing subsurface disposal systems, the high nitrate concentrations found in the groundwaters of the area are due in part to the sewage percolated into the ground from private disposal systems. The Regional Board further stated that elimination of these private disposal systems by the installation of sewers would assist in improving water quality in that area of the groundwater basin which provides a portion of the City of Claremont's water supply.

Sewering of the community has been held in abeyance due to institutional difficulties surrounding the annexation of the area to the City of Claremont. The residents opposition appears to center on the issue of an estimated 10% increase of taxes, which would result from annexation. (The City of Claremont presently levies a City property tax and provides the community with services.)

Management Strategies

Three alternative strategies have been explored and are described below.

1. Abandonment of the improvement district upon request of a majority of the property owners within the district.
2. Schedule a new hearing with LAFCO and request reconsideration of its condition requiring annexation to the City of Claremont.
3. Annexation of the area to the City of Claremont, with the sewer system installed by the City.

Recommended Action

The recommended course of action to expedite installation of sewers in the Rhodelia Avenue Community is to pursue annexation of the community to the City of Claremont without an election through the procedures in the new law AB 1533. If this is successful, then the installation of sewers would become an improvement project for the City of Claremont. Residents of the Rhodelia Avenue Community would have to pay an assessment for the sewer installation.

Implementation Strategy

Personal communications with the City Manager of Claremont indicate that the City staff will recommend that the City Council pursue annexation of Rhodelia Avenue. As soon as the City Council grants authorization to proceed under AB 1533, a tentative schedule for annexation can be developed.

Cost estimates for the Rhodelia Avenue Sanitary Sewers are as follows:

| | |
|--|-----------|
| (1) Construction costs | \$222,000 |
| (2) Engineering and contract administration | 70,850 |
| (3) Annexation to County Sanitation Dists. #21 | 40,000 |

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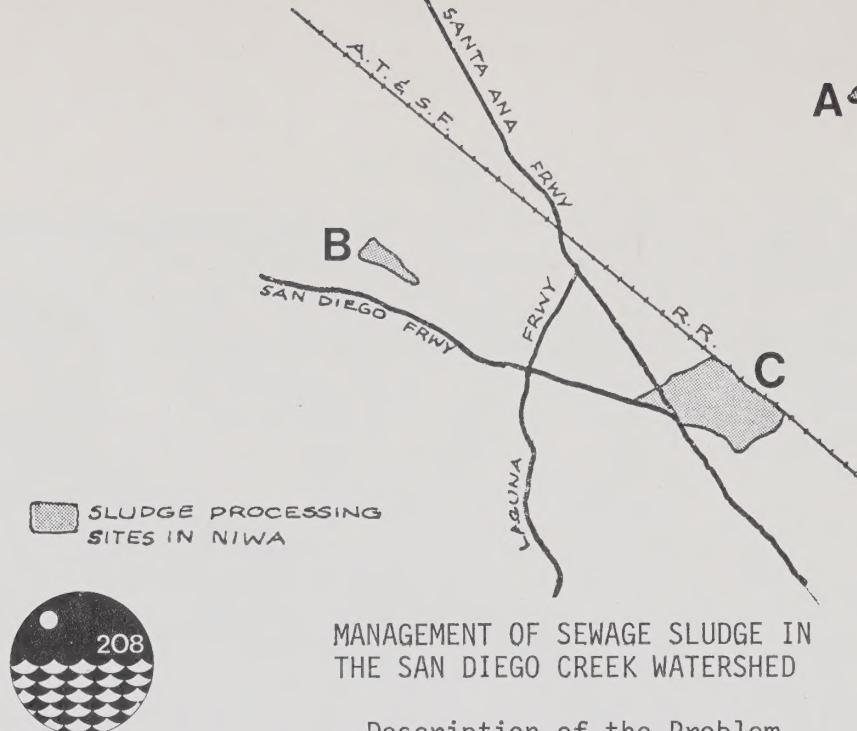
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2. Management of the Sewage Sludge in the San Diego Creek Watershed Area



Description of the Problem

One of the principal deficiencies of present sewage sludge disposal practices in the San Diego Creek Watershed is the absence of means for controlling surface runoff from sludge storage and disposal areas into surface streams tributary to Upper Newport Bay.

Current Sludge Processing and Disposal Sites

In mid-1977, sewage sludge was being received at three sites within the San Diego Creek Watershed of Orange County, (see map).

Golden West Fertilizer Co. (Site A). Dewatered sludge is received in dump trucks, composted and dried on the ground in open piles, mixed with fillers, and hauled in bulk from the premises. About 5,000 cubic yards of composted sludge was delivered from Golden West Fertilizer Co. in 1975-76 to an adjacent site where it was used by Coast Inc. to prepare garden mulch. Bulk loads are sold to builders, landscape contractors and agricultural users at various Southern California locations within economical hauling distance. No records are kept as to the ultimate points of use and there is no established pattern of distribution.

Irvine Field 503 at Jeffrey Road and Barranca Road (Site B). Liquid sludge from Irvine Ranch Water District is spread by tank truck directly on unplanted fields for soil enrichment purposes.

Irvine Fields 331, 332 and 333, North of San Diego Freeway and Southwest of El Toro Marine Air Station (Site C). Thickened, digested sludge from the treatment plant of Rossmoor Sanitation Inc. is spread directly on unplanted fields by self-powered tank trucks.

Management Strategies

Two short-term alternatives for control of surface runoff from sewage sludge processing/disposal areas are discussed below.

1. The first choice is to require and implement flood protection at existing sites. In both the composting of dewatered sludge and the spreading of liquid sludge in fields, there were (in May 1977) no apparent provisions for controlling surface runoff from sludge processing or disposal areas. Currently, the three sites are in need of flood protection.
2. The second alternative is to consolidate the existing system into one composting operation. This is considered as a "back-up" alternative if the continued spreading of sludge is not acceptable from a health standpoint. However, if planned improvements in existing spreading practices are made, it is likely that land application will remain in use during the future.

Recommended Action

The recommended action is to exercise strict control over rainfall runoff from existing sludge spreading and composting sites tributary to San Diego Creek (and Newport Bay) in the NIWA area. This should include a schedule which assures completion of facilities before December 1 of the year in which sludge is being applied to the surface of active fields.

Implementation Strategy

The implementing agency for the following actions is the Santa Ana Regional Water Quality Control Board.

1. Enforcement of existing regulations for the Irvine Ranch Water District (IRWD) disposal site.
2. Modification of the existing regulations for the Ross-moor Sanitation, Inc. site to be as detailed as those for the IRWD site.

3. Prescription on requirements or establishment of guidelines for control of runoff from sludge composting operations such as the Golden West Fertilizer facility. Such requirements might be phrased as follows:
 - a. Drainage from wet sludge shall be contained by suitable grading or peripheral dikes.
 - b. Wet sludge shall not be stored over groundwater aquifers usable for domestic or agricultural water supply.
 - c. Solids of sludge origin shall not be carried to surface water courses by runoff from the site.

Estimated facilities' cost to meet such requirements could vary from \$10,000 to \$50,000 per site, depending upon the extent and permanence of construction chosen by the owner. Although the Regional Board has requested Golden West Fertilizer Co. to file a Report of Waste Discharge, the owner contends that no waste is being discharged and the processing operation is not subject to requirements. Until a finding is made that a waste discharge is existing or threatened, supported by sufficient factual evidence, there may be a delay of several years in controlling the quality of runoff from the site. Ideally, if significant wastes are found in site runoff during a 1977-78 storm, requirements should be established in the spring of 1978.

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3. Management of Dairy Wastes in the Ontario–Chino–Corona Area



MANAGEMENT OF DAIRY WASTES IN THE ONTARIO-CHINO-CORONA AREA

Description of the Problem

The metropolitan Counties of Los Angeles, Orange, San Bernardino, and Riverside are supplied with milk largely from dairies in the Chino Basin. Manure and dairy wastewater in this area cause pollution of surface streams by adding bacteria, suspended solids, and biochemical oxygen demand, and degrading the groundwater by increasing the concentrations of nitrate and total dissolved solids. The local return of the wastes to the land, as was practiced in earlier times, is not an acceptable solution, because the extremely high number of large animals, (163,500 milking cows) concentrated in a relatively limited area, produce much more manure than can be usefully applied. As a result of this high density of animal population serious effects on the groundwater occur in contrast to a relatively minor effect under the conditions that existed a few decades ago.

The problem of solid and liquid wastes from the dairies has some unique features. In addition to the complex technical aspects, there are problems in defining and establishing an institutional structure to carry out a waste management plan. In the past, attempts to solve the pollution problem by individual dairymen have left conditions in a very unsatisfactory state in the opinion of the Regional Water Quality Control Board. Some dairymen have succeeded in selling the manure from their herds, but the present market is so limited that it cannot absorb more than a fraction of the total manure produced. A dairymen who is successful in capturing a portion of the market prevents another from doing likewise.

The basis for addressing solutions within the 208 Program relative to dairy waste problems is that of institutional arrangements. Several institutional alternative solutions are available and are discussed below.

Management Strategies

1. One option is the drastic one of evacuation of the industry to some other location. It is possible that general economic factors may eventually cause dairies to move elsewhere, but a forced evacuation under present conditions would involve socio-political costs too extreme to be seriously considered.
2. One type of organizational system that might be used to deal with the dairy wastes is a private corporation owned by the dairymen. Milk producers' cooperatives now in existence might possibly play a role in developing one overall organization which would require the cooperatives to join in forming a waste disposal corporation. More likely, it would be a corporation in which the individual dairymen would hold shares directly, something like a mutual water company.
3. Another type of organizational system is a public agency which could be controlled by the dairymen. There are several kinds of public agencies that could perform the sewerage function: sanitary district, water district, municipal service district, public utility district and others.

Recommended Action

The Dairy Environmental Committee, the Santa Ana Watershed Project Authority (SAWPA) and the Counties of San Bernardino and Riverside have agreed that it is necessary to establish an institutional structure which is controlled by the dairy industry to manage dairy wastes in the Ontario-Chino-Corona area. The following actions are recommended in order to gain public approval of such an organization:

1. Study the organizational alternatives to determine the best type of agency and whether the agency should be a public or private operation, and cost estimates.
2. Secure preliminary documentation and approval, including definition of boundaries, legal actions and posting of notices to the public.
3. Implement the recommended organization and the petition process.
4. Present petition before the Local Agency Formation Commission (LAFCO) and appear before the County Board of Supervisors for final approval and place recommended organization on the November, 1978 ballot.
5. Define the level and persistence of the mineral pollution, including determination of the quality and quantity of both liquid and solid wastes, looking at options for treatment, performing a preliminary market audit and analyzing the salt balance.

Implementation Strategy

The above actions would lead ultimately to the November, 1978 election where the outcome of a recommended dairy waste management organization would be decided by the public.

Funding sources include the Counties of San Bernardino and Riverside (staff time), SAWPA (about \$20,000), local industries (about \$22,000), and possibly the State (about \$100,000) under federal/state grant funds for the examination and recommendation of technical waste management alternatives.

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This report identifies four representative water quality problems in the South Coast area for which solutions can be initiated before the final 208 water quality plan is completed in late 1978. The Early Action Program Design contains a description of each problem, a comparison of alternative management strategies, a recommendation for action, and an outline of implementation schedules and costs.



Unsewered Communities - Los Angeles County

51 unsewered communities in Los Angeles County were identified. One community, Rhodelia Avenue, located adjacent to the City of Claremont and overlying the heavily nitrate-laden Spadra Groundwater Basin, was found to meet criteria for Early Action. Occasional septic tank overflows have occurred, presenting a possible health hazard through body contact. Both the County Health Officer and the Regional Water Quality Control Board have recommended the installation of sewers and a majority of local homeowners have also petitioned for the installation. However, the project has been in abeyance due to a requirement for annexation of the community to the City of Claremont. Provisions under a new law (A.B. 1533) allowing for annexation without an election may overcome these institutional barriers to sewerage.



Sewage Sludge Management - NIWA Area

Sewage sludge is presently disposed of by spreading and then disk ing into the soil. However, the pollutants from the disposal areas have been transported during streamflows to Newport Bay. The Regional Water Quality Control Board has issued an order prescribing runoff control requirements for the spreading and disk ing sites. The Early Action Program focuses on controls for surface runoff from these sites tributary to San Diego Creek (and Newport Bay) in the NIWA area. This can be done by a regulatory effort of the Regional Board which includes enforcement or modifying current orders at two sites and prescribing new requirements for control of runoff at another site.



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Dairy Waste Management-Riverside and San Bernardino Counties

Dairies in the Chino Basin produce manure and wastewaters which add significant quantities of salts, nitrates and other pollutants to surface and groundwaters in the Santa Ana River Basin. The local return of these wastes to the land, as was practiced in earlier times, is not an acceptable solution because the extremely large number of animals (over 160,000) concentrated in a limited area produce much more manure than can be usefully applied. The Early Action Program is focusing on an institutional structure controlled by the dairy industry which could carry out a plan for managing the liquid and solid dairy wastes. Public and private agencies are being investigated for the most effective management organization.



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